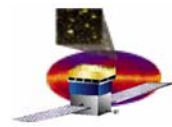


GLAST Large Area Telescope: Tracker Bottom Tray

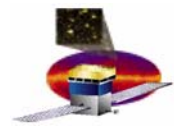
T. Borden
SLAC
Tracker Engineer

tborden@slac.stanford.edu
650-926-3887

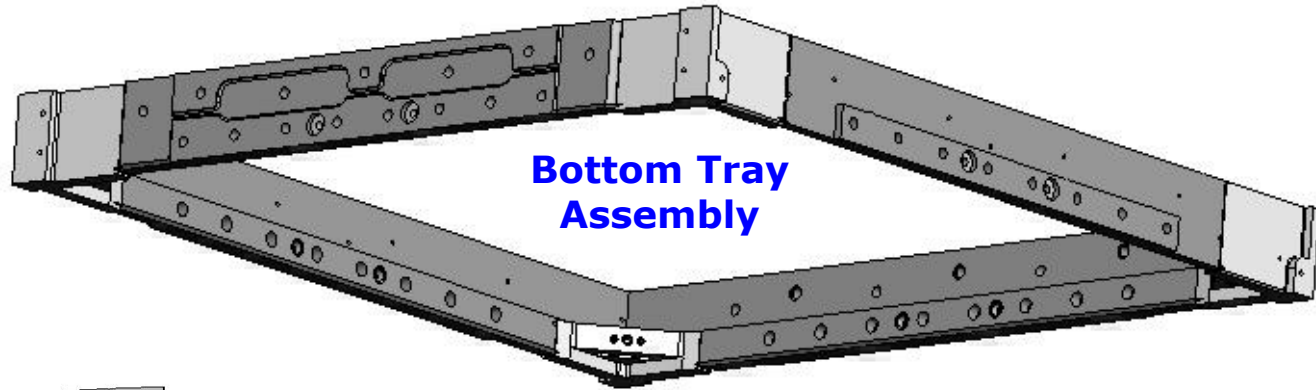


Revised Bottom Tray Description

- ❑ **Revised Design concept includes:**
 - **C-C closeout frame w/ bonded titanium corner reinforcement**
 - **M55J internal frame for stiffness and strength**
 - **6-ply facesheets**
 - **3.0 lb/ft³ honeycomb core**
 - **Metallic inserts**
 - **1-piece titanium side flexures w/ bolted interface**
 - **1-piece titanium corner flexures w/ bolted & pinned interface in the corner reinforcement**

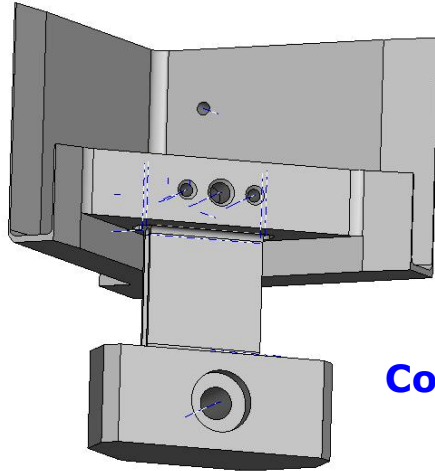


Closeout Frame/Flexure Illustration



**Bottom Tray
Assembly**

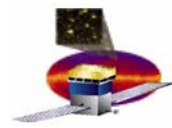
(Facesheet and core not shown for clarity)



**Corner Flexure
Assembly**

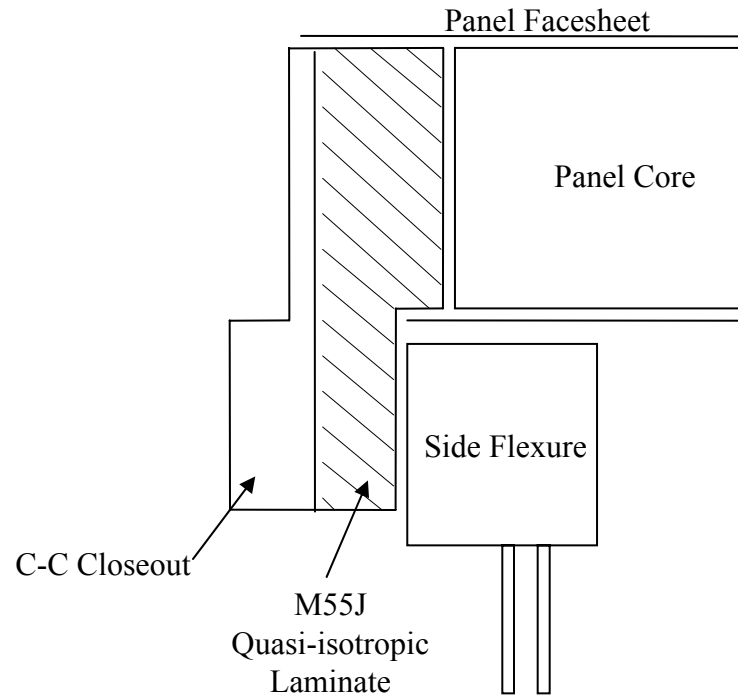


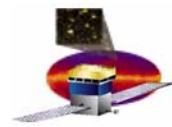
Side Flexure



Bottom Tray Closeout Frame Concept

Modified w/M55J Laminate Stiffener

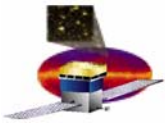




Stiffness Predictions

- Fixed Base Modal Analysis

Mode #	Frequencies (Hz)		Mode Shape
	Proto Type Design w/Lateral Grid Attachment	Modified Design	
1	92.1	132.2	Primary Lateral Y
2	92.2	136.3	Primary Lateral X
3	223.6	317.4	Primary Axial Z
4	302.8	330.7	Primary Torsional Mode
5	357.1	429.3	Second Lateral X
6	364.8	462.3	Second Lateral Y



Schedule to Completion

- **2/14/03** **Complete C/C material testing results from SLAC to Hytec**

- **3/7/03** **Integrate FEA models (includes Pretest analysis)**
- **3/14/03** **Deliver reduced FEA model of Tower to SLAC for CLA analysis**

- **4/11/03** **Bottom trays (2) delivered to HYTEC**
- **4/21/03** **Test structure fabrication complete**
- **4/21/03** **Set up static test – 110% of expected loads**

- **5/2/03** **Ship static load tested bottom tray for EM to Italy (Ship date from HYTEC)**
- **5/19/03** **Start vibration test in Italy**
- **5/30/03** **Vibration testing in Italy complete**

- **6/27/03** **Deliver final report on EM testing**